U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-260 358

NATIONAL ESTUARINE POLLUTION STUDY

FEDERAL WATER POLLUTION CONTROL
ADMINISTRATION, WASHINGTON, D. C.

JULY 1967

PB 260 358

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U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

BIBLIOGRAPHIC DATA SHEET	1. Report No.	2.	3. Recipient's Accession No. PB-260 358
4. Title and Subtitle National Estuarine Pollution Study			5. Report Date Jul 67 6.
7. Author(s)			8. Performing Organization Rept. No.
9. Performing Organization Name and Address Federal Water Pollution Control Administration, Washington, D. C. Office of Estuarine Studies.			10. Project/Task/Work Unit No. 11. Contract/Grant No.
12. Sponsoring Organization Name and Address			13. Type of Report & Period Covered 14.

15. Supplementary Notes

16. Abstracts

The plans for an estuarine study required by the Clean Water Restoration Act of 1966 are presented in outline form. Included is a reprint of the "Estuarine Study" amendment of the Act, a list of Federal agencies interested in estuarine resource problems, and a tenative list of selected agencies and organizations to be consulted.

17. Key Words and Document Analysis. 17a. Descriptors

17b. Identifiers/Open-Ended Terms

*Estuaries
Clean Water Restoration Act of 1966
*Water pollution
Project planning

17c. COSATI Field/Group 13B

18. Availability Statement	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 16
	20. Security Class (This Page UNCLASSIFIED	22. Price

FORM NTIS-35 (REV. 10-73) ENDORSED BY ANSI AND UNESCO. THIS FORM MAY BE REPRODUCED USCOMM-DC 8265-P74

National Estuarine Pollution

Study

Due to circumstances beyond our control page 6 of this report is missing. Although all efforts to obtain the missing page have been unsuccessful, we are making the remainder of this report available to the public.

Office of Estuarine Studies
Division of Technical Services
Federal Water Pollution Control Administration
U.S. Department of the Interior

July 1967

INTRODUCTION

The early history of the Nation emphasizes the importance of estuaries and their resources -- food for the colonists, avenues of commerce for the emerging colonies, revolutionary battlefields, and service entrances to the western goldfields. Now, the estuaries are used for -- recreation, sportfishing, coolant water for power stations and industry, and operating base for the greatest naval force in the world. (The term, "estuary", is defined in Appendix A.)

Belatedly, the Nation recognized that the estuaries have finite boundaries and that a combination of pollution and poor management practices has gradually eroded their value for many beneficial uses. In too many instances, the estuary has become only an open sewer carrying the wastes of industry, agriculture, and municipalities into what were thought to be the boundless dilutional capacity of the oceans.

The technical aspects of pollution control and water quality enhancement in estuarine areas are infinitely more complicated than in fresh-water rivers and lakes. The almost unlimited combination of fresh and salt waters, with variable densities and responses to river flows and tidal conditions, greatly complicates estuarine pollution abatement and surveillance. To understand the scope and depth of the complexities requires the development of a great body of technical information oriented specifically to the estuarine environment.

These chemical and hydrologic complexities are further compounded by a wide range of climatic conditions ranging from Alaska's arctic seas to the tropics of Puerto Rico and Hawaii; by tidal ranges from 1 - 50 feet; and by a host of geographic forms including convoluted marshes of South Carolina and New Jersey, the drowned coast of Maine, and the fjords of Puget Sound and Alaska.

The public response to the transformation of the estuarine environment has paralleled the public interest in the pollution of our fresh-water streams and lakes. This concern manifested itself in the "shellfish" amendment to the Federal Water Pollution Control Act and in the "Estuarine Study" amendment of the Clean Water Restoration Act of 1966. (See Appendix A).

The current extent of National interest in sea resources is also indicated by the passage of the Sea-Grant College Act and the Marine Resources and Engineering Development Act of 1966 and by the release of three major National reports in 1966-1967. Each report focuses attention on the problems of estuarine pollution.

Oceanography - 1966	National Academy of Sciences--National Research Council
Effective Use of the Sea	President's Science Advisory Committee Panel on Oceanography
Marine Science Affairs	A Year of Transition. The First report of the President to the Congress on Marine Resources and Engineering Development.

The Clean Water Restoration Act of 1966 directs the Secretary of Interior to conduct a study of the Nation's estuaries to determine the present state of pollution; delineate pollution problems; evaluate the effects of pollution on beneficial uses; document the values of the estuaries; and, provide a basis of action for the beneficial management of this unique natural resource (Appendix A). The plans for this estuarine study are presented in outline form.

NATIONAL ESTUARINE POLLUTION STUDY

AUTHORITY:

Title II.
Section 5 (q)(1). Clean Water Restoration Act of 1966
P.L. 89-753, November 3, 1966

OBJECTIVES:

To prepare a report for the Secretary of the Interior to the Congress which will: (1) document and analyze the various aspects of estuarine pollution; (2) make recommendations for a comprehensive National program for preservation, study, use, and development of the estuaries; and (3) recognize the respective roles of Federal, State, and local governments plus public and private interests.

SCOPE:

The Act calls for a comprehensive study of the effects of pollution, including sedimentation, in the estuaries and estuarine zones on beneficial uses and a consideration of use-trends which will influence future pollution problems. The Act also calls for the assembly, coordination, and organization of all existing data; the conduct of surveys to provide supplementary data in representative estuaries; the identification of problems and areas in need of further study; and analysis of economic and social values of the estuaries; and a discussion of the major economic, social, and ecological trends as they may influence future pollution problems. The Act directs that the study be made in cooperation with other government agencies, private organizations, institutions and individuals.

TARGET DATE:

The Act directs that a report be submitted to Congress within 3 years after enactment. The attainment of this goal requires the establishment of the following sub-goals:

Cut-off date for project data	-	Feb. 1, 1969
Completion of Preliminary Draft	-	April 1, 1969
Completion of Final Draft	-	June 1, 1969
Approval by Secretary	-	July 1, 1969
Submission to Congress	-	Nov. 1, 1969

The time schedule is tight. The initial delays in project implementation in FY 1967 prevent the inclusion of additional time for slippage.

PROJECT DIRECTOR:

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Division of Technical Services, FWPCA
U.S. Department of the Interior
Telephone: 963-35872 or IDS Code 13 X35872

METHOD OF STUDY:

Information and data will be obtained through five principal avenues.

1. Data already in the files of the Federal Water Pollution Control Administration. Field staff of the Administration will be requested to collect other statistics or data necessary for thecompletion of certain elements of the report.

2. Consultation with other elements of the Department of the Interior.

3. Consultation with other Federal agencies, State agencies, interstate agencies, private organizations, institutions, National organizations, and individuals. The following actions are contemplated:

   a. Direct consultation with other Federal agencies interested in estuarine resource problems. (Appendix B)

   b. Consultation on a State-by-State basis with agencies interested in estuarine resources and pollution control. (Consultation will be limited to the 24 coastal States, Puerto Rico, Virgin Islands, Guam, American Samoa, and the District of Columbia). The assistance of the several Governors in arranging agency meetings has been requested through the Office of the Secretary. Subsequent contacts will be made through the Regional Offices. (see Fig. 1)

   c. Direct consultation with interstate agencies and commissions, institutions, and National organizations. Institutions will be interpreted to mean universities, colleges, and private foundations interested in marine sciences. National organizations will be interpreted to mean professional organizations interested in pollution control, conservation, and natural resources; non-professional, general interest organizations such as General Federation of Women's Clubs; user organizations such as the National Association of Manufacturers, and interested labor unions. A tentative

list of selected agencies and organizations is included. (Appendixes C & D)

d. Public hearings in each "coastal State", under the direct sponsorship of Federal Water Pollution Control Administration, hopefully in each case with the assistance of the Governor's office.

4. Contracts: Contracts will be used as the primary source of information for socio-economic values, ecological, demographic and industrial trends, and application of new technology. A National Conference on Estuarine Research needs will be scheduled for January 1969 to provide interested engineers, scientists, and public administrators with a "last minute" opportunity to outline and discuss research and study needs and areas of opportunity.

5. Supplemental in-house technical studies will be concentrated in the Chesapeake Bay area and will be focused on those aspects of the Bay which may be typical of estuarine pollution problems such as:

Management of thermal wastes
Marina and boat pollution
Management of nutrients
Pollution surveillance systems
Modeling and data display systems
Residual sludge or sediment deposits
Petroleum handling

ALLOCATION OF RESOURCES:

Approximately 70-80% of appropriated funds will be used for contracts. Contracts will be negotiated with universities, corporations, non-profit institutions, and other Federal agencies.

FRAME OF REFERENCE:

The following assumptions will be used in the conduct of the study:

1. Estuaries have high economic and social values.
2. Attainment of maximum public return from estuarine system depends on:
   a. Protection of water quality
      and
   b. Land use "restriction"
3. There will be increasing pressure for multiple use of the estuarine system.
4. There is a need for a continuing, articulated research program with broad geographic scope.
5. Attainment of maximum public returns calls for a management partnership among State, Federal, and local agencies.

j. Institutional systems for estuarine management. Includes Federal authority.
k. Research and study needs.

PART III - Supporting Data, including full reports from individual contractors, responses from States and other interested groups, etc.

4. Sufficient copies of each Part will be prepared for distribution to all interested parties, public and private, as required by the Act.

APPENDIX A

Public Law 89-753
89th Congress, S. 2947
November 3, 1966

An Act

80 STAT. 1246

To amend the Federal Water Pollution Control Act in order to improve and make more effective certain programs pursuant to such Act.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Clean Water Restoration Act of 1966"

Clean Water Restoration Act of 1966.

TITLE II

Estuarine zones, pollution study. 70 Stat. 499; 75 Stat. 205; 79 Stat. 903. 33 USC 466e.

(b) Section 5 of such Act is amended by adding at the end thereof the following new subsections:

"(g)(1) The Secretary shall, in cooperation with the Secretary of the Army, the Secretary of Agriculture, the Water Resources Council, and with other appropriate Federal, State, interstate, or local public bodies and private organizations, institutions, and individuals, conduct and promote, and encourage contributions to, a comprehensive study of the effects of pollution, including sedimentation, in the estuaries and estuarine zones of the United States on fish and wildlife, on sport and commercial fishing, on recreation, on water supply and water power, and on other beneficial purposes. Such study shall also consider the effect of demographic trends, the exploitation of mineral resources and fossil fuels, land and industrial development, navigation, flood and erosion control, and other uses of estuaries and estuarine zones upon the pollution of the waters therein.

"(2) In conducting the above study, the Secretary shall assemble, coordinate, and organize all existing pertinent information on the Nation's estuaries and estuarine zones; carry out a program of investigations and surveys to supplement existing information in representative estuaries and estuarine zones; and identify the problems and areas where further research and study are required.

"(3) The Secretary shall submit to the Congress a final report of the study authorized by this subsection not later than three years after the date of enactment of this subsection. Copies of the report shall be made available to all interested parties, public and private. The report shall include, but not be limited to— Report to Congress.

"(A) an analysis of the importance of estuaries to the economic and social well-being of the people of the United States and of the effects of pollution upon the use and enjoyment of such estuaries;

"(B) a discussion of the major economic, social, and ecological trends occurring in the estuarine zones of the Nation;

"(C) recommendations for a comprehensive national program for the preservation, study, use, and development of estuaries of the Nation, and the respective responsibilities which should be assumed by Federal, State, and local governments and by public and private interests.

"(4) There is authorized to be appropriated the sum of $1,000,000 per fiscal year for the fiscal years ending June 30, 1967, June 30, 1968, and June 30, 1969, to carry out the purposes of this subsection. Appropriation.

"(5) For the purpose of this subsection, the term 'estuarine zones' means an environmental system consisting of an estuary and those transitional areas which are consistently influenced or affected by water from an estuary such as, but not limited to, salt marshes, coastal and intertidal areas, bays, harbors, lagoons, inshore waters, and channels, and the term 'estuary' means all or part of the mouth of a navigable or interstate river or stream or other body of water having unimpaired natural connection with open sea and within which the sea water is measurably diluted with fresh water derived from land drainage. "Estuarine zones." "Estuary."

APPENDIX B.

FEDERAL AGENCIES

Department of Agriculture

Department of Commerce

Department of Defense

Department of Health, Education, and Welfare

Department of Housing and Urban Development

Department of State

Department of Transportation

General Services Administration

National Aeronautics and Space Administration

National Council on Marine Resources and Engineering Development

National Science Foundation

Smithsonian Institution

Water Resources Council

APPENDIX C

Interstate Agencies and Commissions

1. Atlantic States Marine Fisheries Commission
2. Delaware River Basin Commission
3. Gulf States Marine Fisheries Commission
4. Interstate Commission on the Potomac River Basin
5. Interstate Sanitation Commission
6. New England Interstate Water Pollution Control Commission
7. Pacific Marine Fisheries Commission

APPENDIX D

National Organizations

A. Water Pollution Control, Conservation and National Resource

1. American Conservation Association, Inc.
2. American Fisheries Society
3. American Society of Ichthyologists and Herpetologists
4. American Society of Limnology and Oceanography, Inc.
5. Artic Institute of North America
6. Boat Owners Council of America
7. Boy Scouts of America
8. Citizens Committee on Natural Resources
9. The Conservation Foundation
10. Ducks Unlimited, Inc.
11. Ecological Society of America
12. Izaak Walton League of America
13. National Association of Soil and Water Conservation Districts
14. National Audubon Society
15. National Parks Association
16. National Waterfowl Council
17. National Wildlife Federation
18. Natural Resources Council of America
19. The Nature Conservancy
20. Outboard Boating Club of America
21. Outdoor Writers Association of America, Inc.
22. Oyster Institute of North America
23. Resources for the Future, Inc.
24. Sierra Club
25. Sport Fishing Institute
26. Water Pollution Control Federation
27. Wilderness Society
28. Wildlife Management Institute
29. Wildlife Society

B. General Interest Organizations

1. The Garden Club of America
2. General Federation of Women's Clubs
3. League of Women Voters of the U.S.

C. User Organizations

1. Chamber of Commerce of the U.S.
2. National Association of Manufacturers
3. National Fisheries Institute

D. State and local governments

1. American Institute of Planners
2. American Society of Planning Officials
3. Council of State Governments
4. International City Managers Association
5. National Association of Counties
6. National League of Cities
7. United States Conference of Mayors

E. Interested labor unions

FIGURE 1 -- NATIONAL ESTUARINE POLLUTION STUDY -- COASTAL STATES